

Open-Source Software Basics

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What is Open-Source Software?

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- However...

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- However... The fact that some software is open-source, usually implies a couple of things about its development.

How OSS Development Usually Works

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- This starts with someone that publishes some code that programs some software (and usually, only the source code).
- Then people interested in this software come and *contribute* to its development.
- This community-driven development is what OSS is usually about.

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- *Do they just upload a folder / directory with their work somewhere online ?*

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- Usually No and for a good reason.
- We need some more complex capabilities that simple folders don't provide.

Source Code Publishment

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- **Go to Live Demo Mode!**

Source Code Publishment

- Git works with repositories.
- A **Git repository** is just a fancy name for:
- „A folder with the current snapshot of my code along with all the files that **Git** needs“.
- So, what I publish, is a **Git repository**.

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- Again, usually No.

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- This is where **Github** comes into play.
- It is an online platform for **Git repositories**. Essentially, it provides a nice way to view a git repo.
- **Go to Live Demo Mode!**

How Do I Contribute ?

- Step 2: The Contribution
- *Alright, that's all good, but how do I contribute to a repository ?*

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- You **fork** the repository, you **commit** your changes and then **PR** those changes. A **PR review** follows and if the changes are welcome, they get **merged**.

How Do I Contribute ?

- Let's explain each unknown term in the previous slide separately.

The Fork

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- That copied repository is owned by you (but it's visible that it is a copy of the original).

The Fork

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- Then when you're ready, you **PR** those changes.

The Pull Request (PR)

- A **pull request (or PR)** is a *request* to the maintainer of the original repository to *pull* your changes.
- Pull here means just „incorporate my changes to your project“.

The PR Review

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- This definitely includes a **code review** but also a review of why this change is beneficial, what are the intentions etc.

The Merge

- Finally, if people approve the request, it will get **merged**. In the Git parlance, merging code involves a lot of details in which we won't get into.

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- Finally, if people approve the request, it will get **merged**. In the Git parlance, merging code involves a lot of details in which we won't get into.
- Bottom-line, your changes were accepted and are now part of the original repo.

Other Kinds of Contributions

- In essence, the reason that one contributes to OSS is because they want to see better software in the world.

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- For good software to exist, we not only need people that write good code!

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- We need people that **find bugs** (i.e. problems) in the software.
- People that are good at **helping** others get better at programming.

Other Kinds of Contributions

- And let's not forget the **soft skills**. Remember that communities play a central role in OSS. And directing a healthy community is harder than it may sound.

The Key Take-away

- We need people that understand what good software feels like, they want to see more such software and they are willing to help in its development!

Benefits

- *What OSS offers to me ?*
- Meaningful OSS contributions are one of the most important kinds of experience to include in a CV.

Benefits

- *What OSS offers to me ?*
- You get to **become a better programmer**! Although contributing to OSS is not necessary to become a good programmer, it is potentially sufficient.

Benefits

- *What OSS offers to me ?*
- You get to interact with some of the best programmers in the world. This is related to the previous one but it obviously stands on its own. :)

Benefits

- *What OSS offers to me ?*
- You get to **program** not because someone told you to but **because you chose to..!**

How we will operate

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- This is a forum-like service that can help us have public discussions.
- Other than that, 4 main actions are proposed to help people get involved in open-source development.

The 4 Actions

1. A mock project
2. Talks from you in technical topics (e.g. Git usage)
3. Talks from you in either your own open-source project or a presentation of a popular one.

The 4 Actions

4. Questions and Answers in Slack.

How to join us

Use this [invitation link](#) to join us in Slack.

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Thank you!